

**Amendments to the claims**

1-163. (Cancelled)

164. (Currently amended) A quantum device comprising a ~~conductor~~ plurality of conductors, wherein the ~~conductor comprises~~ conductors of the quantum device comprise a cut single-wall carbon nanotube nanotubes, wherein the cut single-wall carbon nanotubes of the conductors have a substantially similar length.

165. (Cancelled)

166. (Currently amended) An integrated circuit comprising a plurality of molecular wires, wherein the molecular wires of the integrated circuit comprise cut single-wall carbon nanotubes, wherein the cut single-wall carbon nanotubes have a substantially similar length.

167-169. (Cancelled)

170. (Currently amended) An RF shielding device comprising a plurality of single-wall carbon nanotubes, wherein the single-wall carbon nanotubes of the RF shielding device have been purified and cut, and wherein the purified and cut single-wall carbon nanotubes have a substantially similar length ~~a homogeneous characteristic selected from the group consisting of lengths, diameters, helicities, end derivatization and combinations thereof.~~

171. (Currently amended) A microwave absorbing material comprising a plurality of single-wall carbon nanotubes, wherein the single-wall carbon nanotubes of the microwave absorbing material have been purified and cut, and wherein the purified and cut single-wall carbon nanotubes have a substantially similar length ~~a homogeneous characteristic selected from the group consisting of lengths, diameters, helicities, end derivatization and combinations thereof.~~

172. (Currently amended) A hydrogen storage device comprising a plurality of single-wall carbon nanotubes, wherein the single-wall carbon nanotubes of the hydrogen storage device have been purified and cut, and wherein the purified and cut single-wall carbon ~~nanotube~~ nanotubes have a substantially similar length ~~a homogeneous characteristic selected from the group consisting of lengths, diameters, helicities, and derivatization and combinations thereof.~~
173. (Currently amended) A battery comprising a plurality of single-wall carbon nanotubes, wherein the single-wall carbon nanotubes of the battery have been purified and cut, and wherein the purified and cut single-wall carbon ~~nanotube~~ nanotubes have a substantially similar length ~~a homogeneous characteristic selected from the group consisting of lengths, diameters, helicities, and derivatization and combinations thereof.~~
174. (Currently amended) A fuel cell comprising a plurality of single-wall carbon nanotubes, wherein the single-wall carbon nanotubes of the fuel cell have been purified and cut, and wherein the purified and cut single-wall carbon ~~nanotube~~ nanotubes have a substantially similar length ~~a homogeneous characteristic selected from the group consisting of lengths, diameters, helicities, and derivatization and combinations thereof.~~
- 175-195. (Cancelled)
196. (Currently amended) ~~The~~ A hydrogen storage device ~~of Claim 172,~~ comprising a plurality of single-wall carbon nanotubes, wherein the single-wall carbon nanotubes of the hydrogen storage device have been purified and cut, wherein the purified and cut single-wall carbon nanotubes have a substantially similar length, and wherein the single-wall carbon nanotubes are operable to store hydrogen that is stored in the hydrogen storage device.

197. (Currently amended) ~~The A battery of Claim 173,~~ comprising a plurality of single-wall carbon nanotubes, wherein the single-wall carbon nanotubes of the battery have been purified and cut, wherein the purified and cut single-wall carbon nanotubes have a substantially similar length, and wherein the single-wall carbon nanotubes are operable as a hydrogen storage device within the battery.
198. (Currently amended) ~~The A fuel cell of Claim 174,~~ comprising a plurality of single-wall carbon nanotubes, wherein the single-wall carbon nanotubes of the fuel cell have been purified and cut, wherein the purified and cut single-wall carbon nanotubes have a substantially similar length, and wherein the single-wall carbon nanotubes are operable to store hydrogen in the fuel cell.
199. (New) The quantum device of Claim 164 wherein (i) the cut single-wall carbon nanotubes of the conductors have a substantially similar diameter, (ii) the cut single-wall carbon nanotubes have a substantially similar length, and (iii) the substantially similar length is between the substantially similar diameter and 1000 times the substantially similar diameter.
200. (New) The quantum device of Claim 164, wherein the substantially similar length is in the range of about 5 to 1000 nm.
201. (New) The quantum device of Claim 164, wherein the substantially similar length is in the range of about 5 to 500 nm.
202. (New) The quantum device of Claim 164, wherein the substantially homogenous length is in the range of about 50 to 500 nm.
203. (New) The integrated circuit of Claim 166, wherein the substantially similar length is in the range of about 5 nm to 1000 nm.

204. (New) The integrated circuit of Claim 166, wherein the substantially similar length is in the range of about 5 to 500 nm.
205. (New) The integrated circuit of Claim 166, wherein the substantially similar length is in range of about 50 to 500 nm.
206. (New) The RF shielding device of Claim 170, wherein the substantially similar length is in the range of about 5 nm to 1000 nm.
207. (New) The RF shielding device of Claim 170, wherein the substantially similar length is in the range of about 5 to 500 nm.
208. (New) The RF shielding device of Claim 170, wherein the substantially similar length is in the range of about 50 to 500 nm.
209. (New) The microwave absorbing material of Claim 171, wherein the substantially similar length is in the range of about 5 nm to 1000 nm.
210. (New) The microwave absorbing material of Claim 171, wherein the substantially similar length is in the range of about 5 to 500 nm.
211. (New) The microwave absorbing material of Claim 171, wherein the substantially similar length is in the range of about 50 to 500 nm.
212. (New) The hydrogen storage device of Claim 172, wherein the substantially similar length is in the range of about 5 nm to 1000 nm.
213. (New) The hydrogen storage device of Claim 172, wherein the substantially similar length is in the range of about 5 to 500 nm.
214. (New) The hydrogen storage device of Claim 172, wherein the substantially similar length is in the range of about 50 to 500 nm.

215. (New) The battery of Claim 173, wherein the substantially similar length is in the range of about 5 nm to 1000 nm.
216. (New) The battery of Claim 173, wherein the substantially similar length is in the range of about 5 to 500 nm.
217. (New) The battery of Claim 173, wherein the substantially similar length is in the range of about 50 to 500 nm.
218. (New) The fuel cell of Claim 174, wherein the substantially similar length is in the range of about 5 nm to 1000 nm.
219. (New) The fuel cell of Claim 174, wherein the substantially similar length is in the range of about 5 to 500 nm.
220. (New) The fuel cell of Claim 174, wherein the substantially similar length is in the range of about 50 to 500 nm.
221. (New) The hydrogen storage device of Claim 196, wherein the substantially similar length is in the range of about 5 nm to 1000 nm.
222. (New) The hydrogen storage device of Claim 196, wherein the substantially similar length is in the range of about 5 to 500 nm.
223. (New) The hydrogen storage device of Claim 196, wherein the substantially similar length is in the range of about 50 to 500 nm.
224. (New) The battery of Claim 197, wherein the substantially similar length is in the range of about 5 nm to 1000 nm.
225. (New) The battery of Claim 197, wherein the substantially similar length is in the range of about 5 to 500 nm.

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- 226. (New) The battery of Claim 197, wherein the substantially similar length is in the range of about 50 to 500 nm.
- 227. (New) The fuel cell of Claim 198, wherein the substantially similar length is in the range of about 5 nm to 1000 nm.
- 228. (New) The fuel cell of Claim 198, wherein the substantially similar length is in the range of about 5 to 500 nm.
- 229. (New) The fuel cell of Claim 198, wherein the substantially similar length is in the range of about 50 to 500 nm.